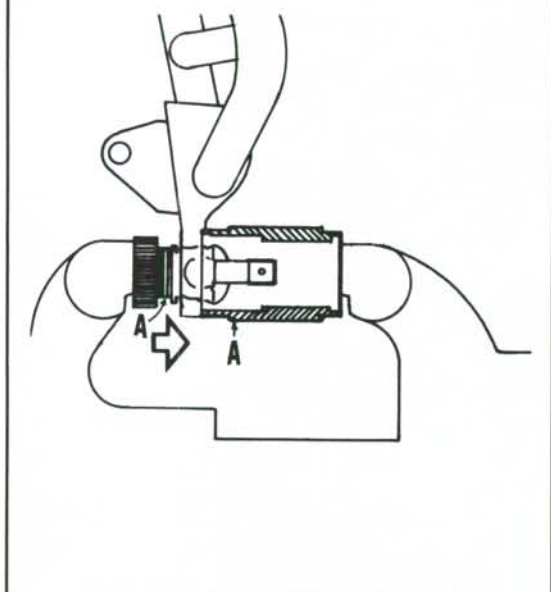
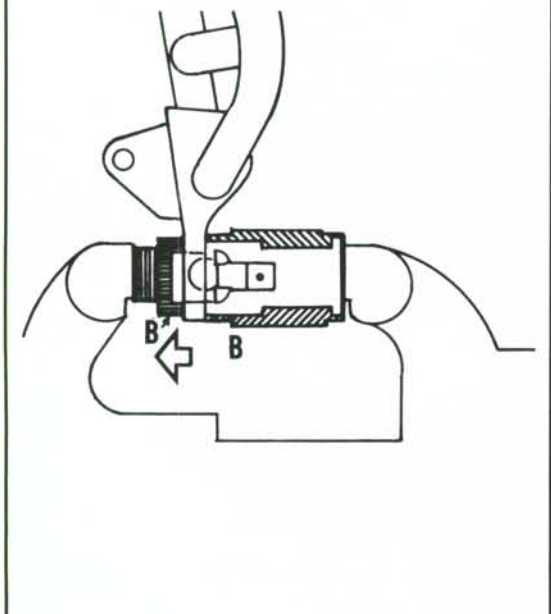


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5. Remove the special tools, upper suspension arm and ball joint from the vise.
6. Clean the ball joint receptacle in the upper suspension arm with solvent and dry thoroughly.
7. Correctly position the new ball joint into the upper suspension arm and use the same special tool used for removal. Position the special tools with the "B" mark facing toward the ball joint.
8. Install the special tools and the upper suspension arm in a vise (**Figure 72**).

CAUTION

*While tightening the vise, if there is a strong resistance or if the vise stops moving, **stop** tightening immediately. There probably is an alignment problem with either the ball joint or the special tool. Realign the ball joint and special tools and try again. The ball joint should press in with a minimum amount of resistance.*

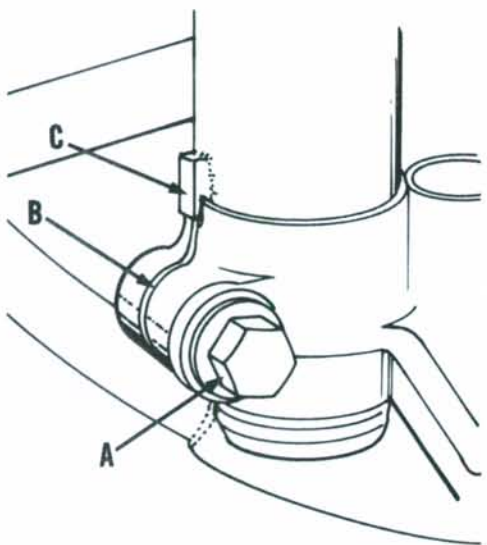
9. Slowly tighten the vise and press the ball joint straight into the upper suspension arm. Press the ball joint in until it bottoms out.
10. Remove the special tools and the upper suspension arm from the vise.
11. Make sure the circlip groove is completely visible in order to accept the circlip. Press the ball joint in farther if necessary.
12. Install the circlip and make sure it seats correctly.

SHOCK ABSORBER

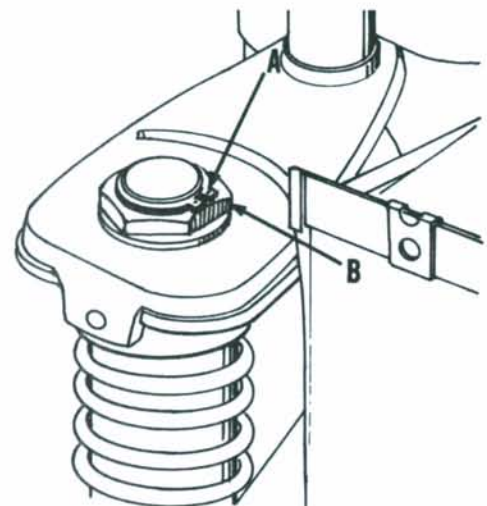
Removal/Installation (1988-1992 2-Wheel Drive)

1. Remove the front fender as described in Chapter Thirteen.
2. Remove the front wheel as described in this chapter.
3. Remove the shock absorber lower pinch bolt (A, **Figure 73**).
4. Carefully withdraw the shock absorber from the steering knuckle.
5. Remove the circlip (A, **Figure 74**) then the top nut (B, **Figure 74**) from the shock absorber top mount.
6. Remove the shock absorber from the frame.
7. Install by reversing these removal steps while noting the following:

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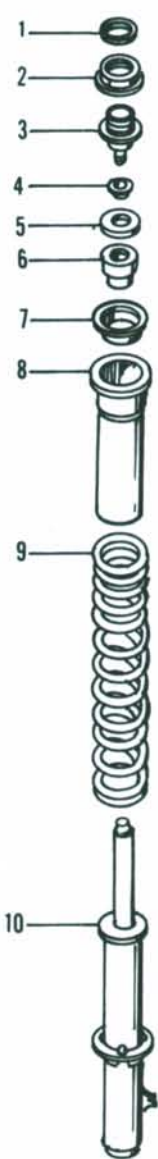


74

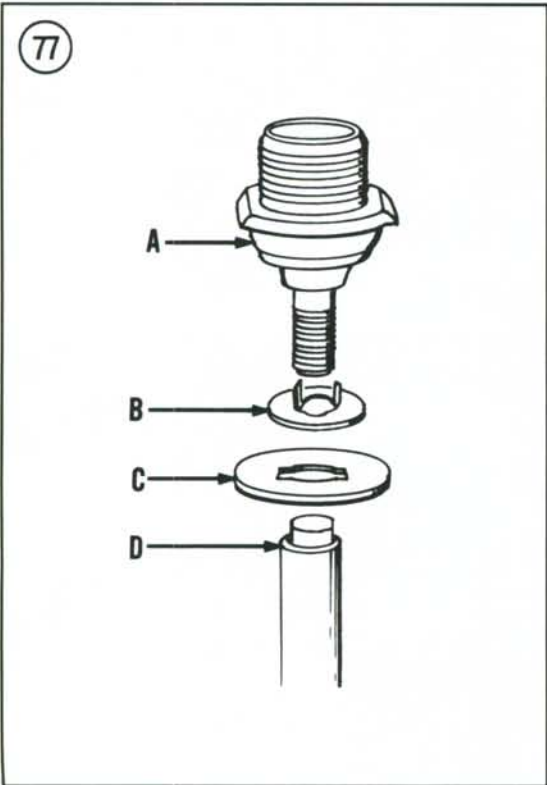
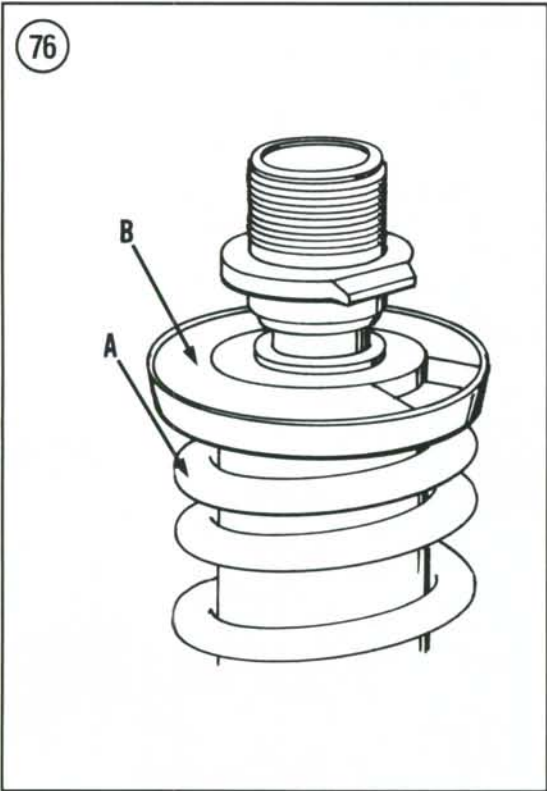


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**FRONT SHOCK ABSORBER
(1988-1992 2-WHEEL DRIVE)**



- 1. Circlip
- 2. Nut
- 3. Upper ball joint
- 4. Lockwasher
- 5. Spring seat guide
- 6. Rubber stopper
- 7. Spring seat
- 8. Spring guide
- 9. Spring
- 10. Damper unit



- a. Install the top of the shock absorber into the frame and install the nut. Tighten the nut to the torque specification listed in **Table 1**.
 - b. Install the shock absorber onto the steering knuckle and align the split in the knuckle (B, **Figure 73**) with the projection on the shock absorber (C, **Figure 73**). Tighten the nut to the torque specification listed in **Table 1**.
8. Repeat for the other side.

Disassembly/Inspection/Assembly
(1988-1992 2-Wheel Drive)

Refer to **Figure 75** for this procedure.

NOTE
There are no replacement parts for the 1993 shock absorber. If any part of the shock is damaged, replace the entire assembly.

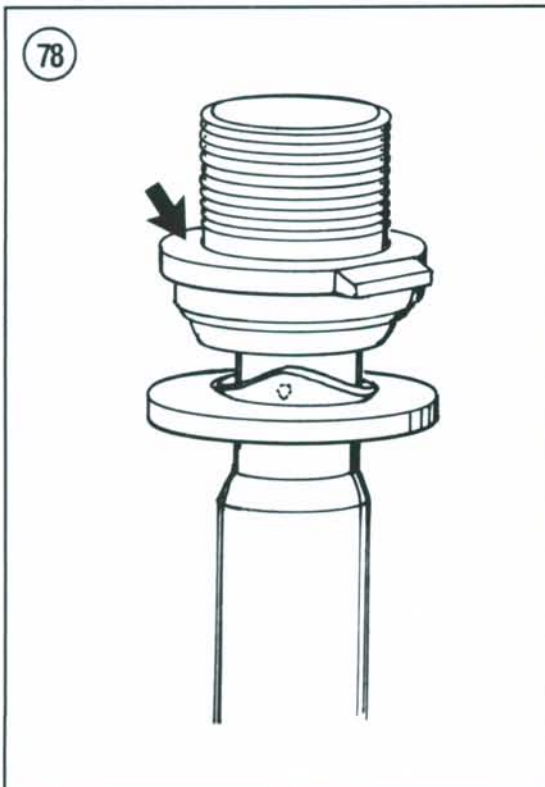
The shock is spring-controlled and hydraulically damped. The shock damper unit is sealed and cannot be serviced. Service is limited to removal and replacement of the damper unit and the spring.

- 1. Set the lower end of the shock absorber on the workbench and position it so it will not slide around.
- 2. Compress the spring (A, **Figure 76**) by hand just enough to gain access to the spring seat (B, **Figure 76**) and remove the spring seat.
- 3. Remove the spring guide and spring from the damper unit.
- 4. Inspect the upper ball joint rubber boot (A, **Figure 77**). The swivel joint is permanently packed with grease. If the rubber boot is damaged, dirt and moisture can enter the swivel joint and destroy it. If the boot is damaged in any way; replace the ball joint as follows:
 - a. Unstake the lockwasher (B, **Figure 77**).
 - b. Hold the damper rod with an open end wrench and unscrew the upper ball joint (**Figure 78**) from the damper rod.
 - c. Remove the upper ball joint, lockwasher (B, **Figure 77**) and spring seat guide (C, **Figure 77**) from the damper rod (D, **Figure 77**).
- 5. Measure the spring free length. The spring must be replaced if it has sagged to the service limit listed in **Table 3** or less.

NOTE

The damper unit cannot be rebuilt; it must be replaced as a unit.

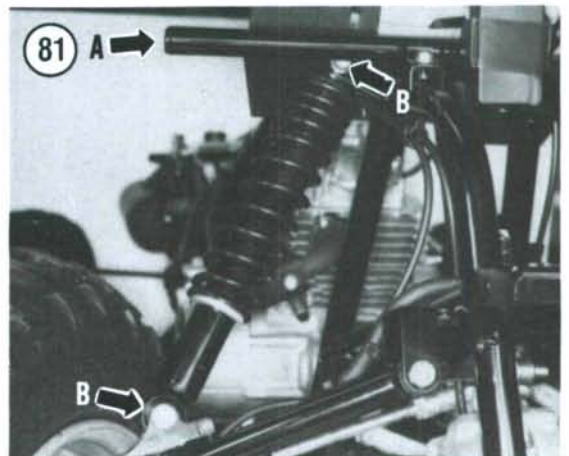
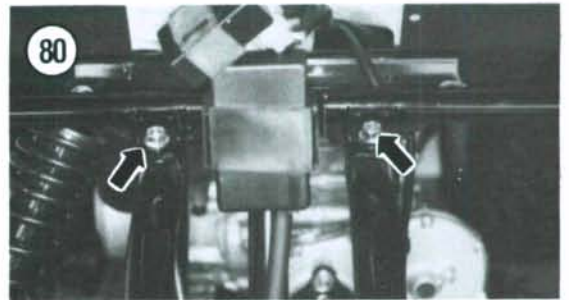
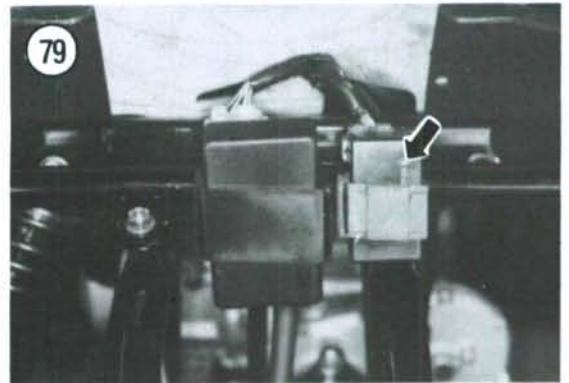
6. Check the damper unit for leakage and make sure the damper rod is straight. Replace the damper unit if necessary.
7. Inspect the rubber stopper. If it is worn or deteriorated, slide off the rubber stopper and replace with a new one.
8. Inspect the spring guide for wear or damage, replace if necessary.
9. Assembly is the reverse of these disassembly steps while noting the following:
 - a. If the upper ball joint was replaced, install a new lockwasher and tighten the ball joint to the torque specification listed in **Table 1**. Bend up the tabs of the lockwasher against the flats of the ball joint.
 - b. Install the spring with the closer wound coils toward the top.
 - c. Make sure the spring seat is properly seated in the spring and is against the upper ball joint.

**Removal/Installation**

(4-Wheel Drive and 1993-on 2-Wheel Drive)

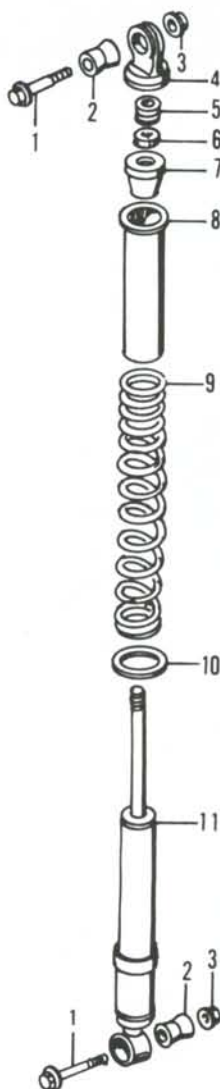
NOTE

This procedure is shown on a 4-wheel drive model. The only major difference is the presence of the front drive axle and other minor items that are unique to the 4-wheel drive system. Where differences occur that relate to the procedure, they are identified.



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FRONT SHOCK ABSORBER (1988-1992 4-WHEEL DRIVE)



1. Bolt
2. Bushing
3. Self-locking nut
4. Upper joint
5. Rubber cushion
6. Nut
7. Rubber stopper
8. Spring guide
9. Spring
10. Spring seat
11. Damper unit

1. Remove the front wheel as described in this chapter.
2. Remove the front fender as described in Chapter Thirteen.
3. On all 1993 models, perform the following:
 - a. Carefully remove the oil temperature system alarm unit (**Figure 79**) out of its rubber mount on the frame.
 - b. Remove the bolts (**Figure 80**) securing the front fender support and remove the support (A, **Figure 81**).

CAUTION

See the CAUTION at the beginning of this chapter relating to the use of self-locking nuts.

4. Remove the bolts and self-locking nuts (B, **Figure 81**) securing the shock absorber to the frame and upper suspension arm. Discard the nuts.

CAUTION

See the CAUTION at the beginning of this chapter relating to the use of self-locking nuts.

5. Install by reversing these removal steps. Tighten the mounting bolts and nuts to the torque specifications listed in **Table 1**.
6. Repeat for the other side.

Disassembly/Inspection/Assembly (1988-1992 4-Wheel Drive)

Refer to **Figure 82** for this procedure.

NOTE

There are no replacement parts for the 1993 shock absorber. If any part of the shock is damaged, replace the entire assembly.

The shock is spring-controlled and hydraulically damped. The shock damper unit is sealed and cannot be serviced. Service is limited to removal and replacement of the damper unit and the spring.

Two special tools are needed for disassembly and assembly of the shock absorber. These tools are available from a Honda dealer and are as follows:

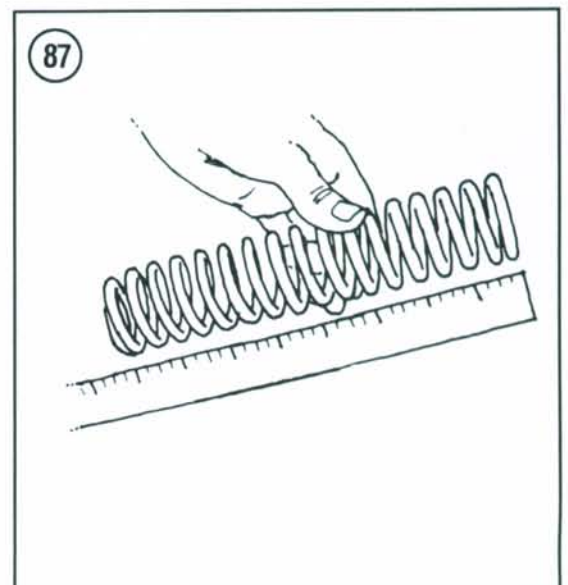
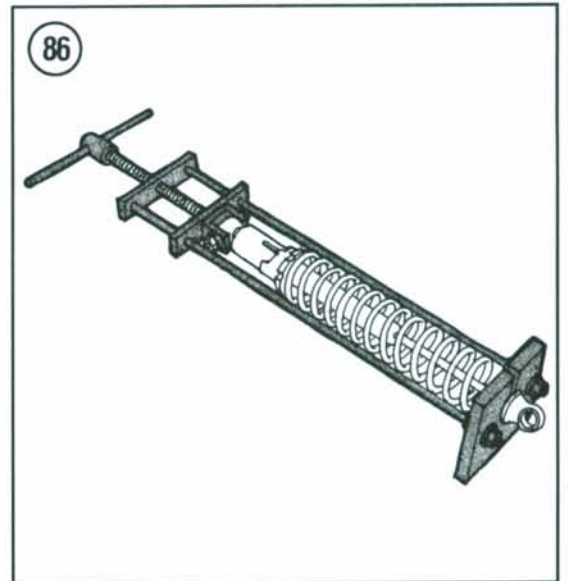
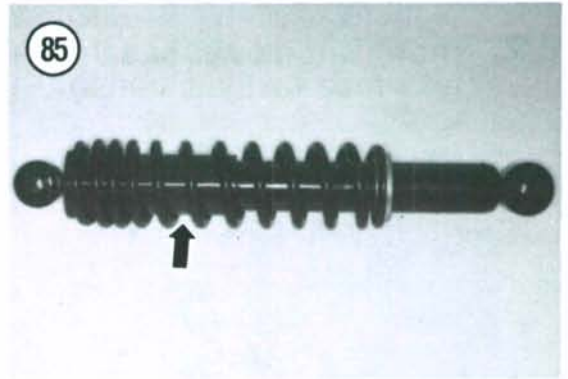
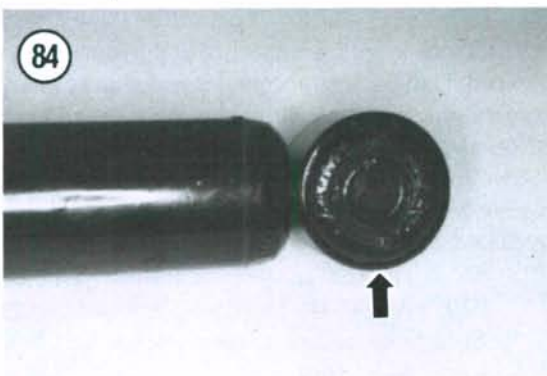
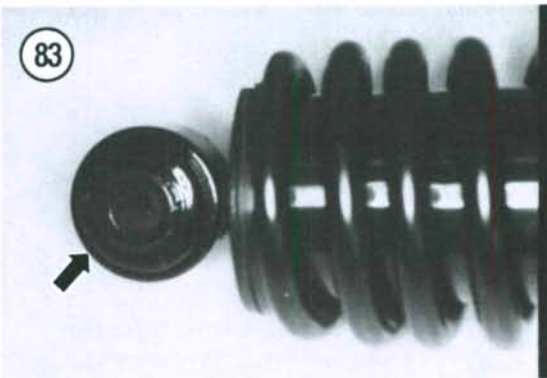
- a. Shock absorber compressor (Honda part No. 07959-3290001).
- b. Spring compressor adaptor (Honda part No. 07967-KC10100).

1. Inspect the rubber bushing in the upper (Figure 83) and lower joints (Figure 84). Replace if necessary.
2. Inspect the spring guide (Figure 85). If it is worn or deteriorated, it must be replaced with a new one.

WARNING

Without the proper tools, this procedure can be dangerous. The spring can fly loose, causing injury. For a small bench fee, a dealer can do the job for you.

3. Install the collar into the spring compressor.
4. Install the shock absorber into a compression tool as shown in Figure 86.
5. Install the adaptor onto the shock absorber spring and into the upper portion of the spring compressor. Tighten the clamp securing the adaptor.
6. Compress the shock spring just enough to gain access to the locknut.
7. Place the upper joint in a vise with soft jaws and loosen the locknut.
8. Completely unscrew the upper joint. This part may be difficult to break loose, as a locking agent was applied during assembly.



9. Release the spring tension and remove the shock from the compression tool.
10. Remove the spring guide, spring and spring seat from the damper unit.
11. Measure the spring free length (**Figure 87**). The spring must be replaced if it has sagged to the service limit listed in **Table 3** or less.

NOTE

The damper unit cannot be rebuilt; it must be replaced as a unit.

12. Check the damper unit for leakage and make sure the damper rod is straight.
13. Assembly is the reverse of these disassembly steps while noting the following:
 - a. Install the spring with the closer wound coils toward the top.

- b. Apply blue Loctite (No. 242) to the threads of the damper rod prior to installing the locknut. Temporarily screw the locknut all the way down and tight against the end of the threads.
- c. Apply blue Loctite (No. 242) to the threads of the damper rod prior to installing the upper joint. Screw the upper joint on all the way. Secure the upper joint in a vise with soft jaws and tighten the locknut along with the damper rod against the upper joint. Tighten the locknut to the torque specification listed in **Table 2**.

NOTE

After the locknut is tightened completely, the locknut must be against the bottom surface of the upper joint and against the end of the threads on the damper rod.

Table 1 FRONT SUSPENSION TIGHTENING TORQUES

Item and Model	N·m	ft.-lb.
Front wheel hub castellated nut		
2-wheel drive	60-80	43-58
4-wheel drive	80-100	58-72
Wheel lug nuts	65	47
Front hub-to-brake drum bolts (4-wheel drive)	10	7
Handlebar		
Holder bolts	27	20
Lower holder nuts*	40	29
Master cylinder holder bolts	12	9
Steering shaft		
Holder bolts	33	24
Nut	70	51
Tie rods		
Ball joint nuts*	55	40
End locknuts	55	40
Steering knuckle (2-wheel drive)		
To lower A-arm castellated nut*	50-60	36-43
Steering knuckle (4-wheel drive)		
To upper A-arm castellated nut*	30-36	22-26
To lower A-arm castellated nut*	30-36	22-26
Front suspension arm nuts*		
1988-1992, 1994-on	45	33
1993	31	22

(continued)

Table 1 FRONT SUSPENSION TIGHTENING TORQUES (continued)

Item and Model	N•m	ft.-lb.
Shock absorber		
2-wheel drive		
1988-1992		
Upper nut	55	40
Lower pinch bolt	55	40
1993		
Upper and lower bolt and nut	31	22
1994-on		
Upper bolt and nut	31	22
Lower bolt and nut	45	33
4-wheel drive		
1988-1992		
Mounting bolts and nuts	25	18
Upper joint locknut	38	27
1993		
Upper and lower bolt and nut	31	22
1994-on		
Upper bolt and nut	31	22
Lower bolt and nut	45	33
Hydraulic brake hose and vent clamp bolt	12	9

* A new fastener must be installed. Reusing an old fastener is strictly prohibited due to the loss of the fasteners locking ability.

Table 2 TIRE SIZE AND INFLATION PRESSURE (COLD)*

Tire size			
2-wheel drive			
Front	AT23 X 8-11		
Rear			
1988-1991	AT25 X 12-9		
1992-on	AT25 X 11-9		
4-wheel drive			
Front	AT23 X 8-11		
Rear	AT24 X 9-11		
Tire pressure	Standard psi (kPa)	Minimum psi (kPa)	Maximum psi (kPa)
2-Wheel Drive			
Front	2.9 (20)	2.5 (17)	3.3 (23)
Rear	2.9 (20)	2.5 (17)	3.3 (23)
4-Wheel Drive			
Front	4.4 (30)	3.8 (26)	5.0 (34)
Rear	2.9 (20)	2.5 (17)	3.3 (23)

* Tire inflation pressure for factory equipped tires. Aftermarket tires may require different inflation pressure.

Table 3 FRONT SUSPENSION SPECIFICATIONS

Item	Specification	Wear limit
Shock absorber spring free length		
2-wheel drive	280.0-286.0 mm (11.02-11.26 in.)	277.2 mm (10.91 in.)
4-wheel drive	244.4-250.4 mm (9.62-9.86 in.)	241.9 mm (9.52 in.)
Tie rod end centers (Distance)		
2-wheel drive	300 mm (11.8 in.)	—
4-wheel drive	343 mm (13.5 in.)	—

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